

## **REMARKS**

### **Status**

This Amendment is responsive to the Final Office Action dated May 18, 2005, in which Claims 1-6, 8, 15-24, 27-29, and 32-34 were rejected; Claims 7, 9-14, 30, 31, and 36 were allowed; and Claims 25, 26, and 35 were objected to. No claims have been canceled; Claims 25 and 35 have been amended; and no new claims have been added. Accordingly, Claims 1-36 are pending in the application, and are presented for reconsideration and allowance.

### **Allowed Claims**

Claims 7, 9-14, 30, 31, and 36 are allowed. Applicants thank the Examiner for the allowance of these claims.

Claims 25, 26, and 35 stand objected to. Claims 25 and 36 have been rewritten as independent claims, and accordingly, are believed to be in condition for allowance. Claim 26 is dependent on allowed rewritten Claim 25. As such, Claim 26 is believed to be in condition for allowance.

### **Claim Rejection - 35 USC § 102**

Claims 1, 16-18, 21, 23, 24, 27, 29, and 33 stand rejected under 35 USC 102(e) as being anticipated by US Patent No. 6,633,655 (*Hong*). This rejection is respectfully traversed.

*Hong* is not directed to detecting iris colored pixels. Rather, *Hong* is directed tracking the eye pupils. This is often referred to as “eye gaze tracking” and is accomplished by looking at the eye pupils.

As stated in the Office Action on Page 2, Paragraph 3, “the pupil is a component of the iris”. Thus, the pupil is a subset of the iris. Since the pupil is geometrically enclosed within the iris, finding the pupil region does not identify the boundary of the iris region. As such, *Hong*’s tracking of the eye pupils is not equivalent to the present invention’s claimed feature of detecting iris colored pixels.

Further, *Hong* operates in a controlled environment. For example, *Hong*’s method starts from a **known** face, stating:

“... the approximate distance of the face of an observer from the display is **known** so that the approximate size of a face in each video image is **known**.” (Col 11, lines 41-44). (emphasis added) (See also Col 12, lines 8-11.).

With the known face being of a known size, *Hong* restricts the search of eye pupils to candidate eye regions, stating:

“Locating the candidate eye pupil regions may be restricted to candidate eye positions of the candidate face region.” (Col 6, lines 21-23).

Thus, *Hong* is tracking the eye pupils, stating:

“The analyzing step may detect the centres of the eye pupils as the centroids of the candidate eye pupil regions.” (Col 6, lines 33-35).

Thus, *Hong* does not teach detecting iris colored pixels. Nor does *Hong* teach grouping the pixels into clusters since *Hong* controls the number of pixels, stating:

“The resolution is reduced such that the face of an adult observer occupies about two or three pixels in each dimension as indicated in FIG. 7.” (Col 11, lines 44-47).

In the present invention, the search for iris color pixels is not restricted or limited to eye regions since the eyes are unknown. Eye positions are determined by finding iris color pixels, which – in contrast to *Hong* - can be found in non-eye regions since iris color pixels do not necessarily belong to irises.

These features of the present invention of detecting a plurality of iris colored pixels and grouping the plurality into clusters are clearly claimed in independent Claims 1 and 27 and are not taught by *Hong*. As such, independent Claims 1 and 27 are not anticipated by *Hong*.

Claims 16-18, 21, 23, 24, 29, and 33 are dependent on Claim 1 or 27, and therefore include all the features thereof. For the reasons set forth above with regard to Claims 1 and 27, Claims 16-18, 21, 23, 24, 29, and 33 are also believed to be patentable.

**Claim Rejection - 35 USC § 103 – Hong/Kim**

Claims 2 and 28 stand rejected under 35 USC 103(a) as being unpatentable over *Hong* in view of US Patent No. 6,049,626 (*Kim*). This rejection is respectfully traversed.

Claims 2 and 28 are dependent on Claim 1 or 27, and therefore include all the features thereof. For the reasons set forth above with regard to Claims 1 and 27, Claims 2 and 28 are also believed to be patentable.

Further, in the present invention, the color histogram equalization of the digital face image is performed based on a color mean statistical analysis of the digital face image. That is, the present invention teaches not to apply histogram equalization to some images if a color mean statistical analysis determines so.

*Kim* does not teach a method of selectively applying histogram equalization to particular images. Rather, *Kim* applies histogram equalization to any images. *Kim* uses luminance mean to divide an image to sub-images, then applies equalization to the sub-images.

Accordingly, Claims 2 and 28 are believed to be patentable.

**Claim Rejection - 35 USC § 103 – Hong/Kim/Gonzalez and Woods**

Claims 3 and 4 stand rejected under 35 USC 103(a) as being unpatentable over *Hong* in view of *Kim*, and further in view of *Gonzalez and Woods*’ “Digital Image Processing”. This rejection is respectfully traversed.

Claims 3 and 4 are dependent on Claim 1, and therefore include all the features thereof. For the reasons set forth above with regard to Claim 1, Claims 3 and 4 are also believed to be patentable.

In addition, in order to apply a probability analysis (e.g., Bayesian model), some property (for example, intensity) probability distributions of two classes (e.g., pupil and non-pupil) are required. *Hong* does not provide an intensity (or other property) probability distribution of pupil and an intensity (or other property) probability distribution of non-pupil. Thus the references cannot be combined as suggested by the Office Action, and Claims 3 and 4 are believed to be patentable.

**Claim Rejection - 35 USC § 103 – Hong/Chen**

Claims 5, 6, and 8 stand rejected under 35 USC 103(a) as being unpatentable over *Hong* in view of US Patent Application No. 2002/0136450 (*Chen*). This rejection is respectfully traversed.

Claims 5, 6, and 8 are dependent on Claim 1, and therefore include all the features thereof. For the reasons set forth above with regard to Claim 1, Claims 5, 6, and 8 are also believed to be patentable.

**Claim Rejection - 35 USC § 103 – Hong/Luo/Gonzalez and Woods**

Claims 15 and 32 stand rejected under 35 USC 103(a) as being unpatentable over *Hong* in view of US Patent No. 6,151,403 (*Luo*), and further in view of *Gonzalez and Woods*’ “Digital Image Processing”. This rejection is respectfully traversed.

Claims 15 and 32 are dependent on Claim 1 or Claim 27, and therefore include all the features thereof. For the reasons set forth above with regard to Claims 1 and 27, Claims 15 and 32 are also believed to be patentable.

**Claim Rejection - 35 USC § 103 – Hong/Funayama**

Claim 19 stands rejected under 35 USC 103(a) as being unpatentable over *Hong* in view of US Patent Application No. 2001/0014182 (*Funayama*). This rejection is respectfully traversed.

Claim 19 is dependent on Claim 1, and therefore includes all the features thereof. For the reasons set forth above with regard to Claim 1, Claim 19 is also believed to be patentable.

**Claim Rejection - 35 USC § 103 – Hong/Luo**

Claims 20, 22 and 34 stand rejected under 35 USC 103(a) as being unpatentable over *Hong* in view of US Patent No. 6,151,403 (*Luo*). This rejection is respectfully traversed.

Claims 20, 22 and 34 are dependent on Claim 1 or Claim 27, and therefore include all the features thereof. For the reasons set forth above with regard to Claims 1 and 27, Claims 20, 22 and 34 are also believed to be patentable.

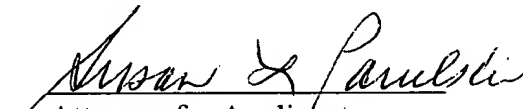
**Summary**

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and favorable action are respectfully solicited.

The Commissioner is hereby authorized to charge any fees in connection with this communication to Eastman Kodak Company Deposit Account No. 05-0225.

Respectfully submitted,

  
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